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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/605,812	06/28/2000	Steven R. Chalmer	EMS-00801	5356

26339 7590 03/17/2005

PATENT GROUP  
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BOSTON, MA 02109

EXAMINER

SHAH, NILESH R

ART UNIT	PAPER NUMBER
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2127

DATE MAILED: 03/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/605,812	<b>Applicant(s)</b> CHALMER ET AL.	
	<b>Examiner</b> Nilesh Shah	<b>Art Unit</b> 2127	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE \_\_\_\_\_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11/22/04.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-3,5-14,16-20,22-31,33 and 34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-14,16-20, 22-31,33, 34 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. Claims 1-3, 5-14,16-20, 22-31,33, 34 are presented for examination.

#### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 9 and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Kamada et al (6,108,683) (hereinafter Kamada).
4. As per claims 9 and 26, Kamada teaches a method of scheduling tasks in a multitasking operating system, comprising  
choosing a particular scheduler from a plurality of schedulers (159, Fig 5; 10-11, 10-12, Fig. 3), wherein at least one of the plurality of schedulers is different from another one of the plurality of schedulers (col. 7 lines 1-40; col. 11 lines 39-40) and wherein at least one of the plurality of schedulers selects processes to be run from a plurality of runnable processes different from the plurality of schedulers and wherein choosing a particular

scheduler is passed on parameter that vary according to run time conditions and running the particular scheduler to schedule tasks (col. 7 lines 1-40; col. 11 lines 21-37).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
  - a. A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
6. Claims 1-3, 5-8, 10-14, 16-20, 22- 25, 27- 31, 33, 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kamada et al (6,108,683) (hereinafter Kamada) and further in view of Perotto et al (5,630,130) (hereinafter Perotto).
7. As per claim 1, Kamada teaches method of providing a particular scheduler for a multitasking system for a processor, comprising:  
choosing the particular scheduler from a plurality of schedulers(159, Fig 5; 10-11, 10-12, Fig. 3), wherein at least one of the plurality of schedulers is different from another one of the plurality of schedulers (col. 7 lines 1-40; col. 11 lines 39-40) and wherein at least one of the plurality of schedulers selects processes to be run from a plurality of runnable processes different from the plurality of schedulers and wherein choosing a particular scheduler is passed on parameter that vary according to run time conditions (col. 7 lines 1-40; col. 11 lines 21-37).

8. Kamada does not specifically teach the use of a program counter.

Perotto teaches the use of setting a program counter to an address corresponding to code of the particular one of the schedulers (col. 4 lines 1-10); and the processor executing code at an address corresponding to the program counter (col. 4 lines 1-10).

9. It would have been obvious to one skilled in the art at the time of the invention to combine the teachings of Perotto and Kamada to include a program counter. By using a program counter to keep track of the number of programs on each processor. As stated by Perotto this will increase the overall efficiency of the system by maximizing the number of tasks on each process.
10. As per claim 2, Perotto teaches a method further comprising of setting a stack pointer to an address corresponding to stack space for the particular scheduler and the processor using the stack space at the stack pointer after executing code at the address corresponding to the program counter (col. 7 lines 21-40).
11. As per claim 3, Perotto teaches a method wherein all of the schedulers use the same stack (col. 7 lines 40-44).

12. As per claim 4, Perotto, teaches a method wherein choosing the particular scheduler is based on parameters that vary according to run time conditions (col. 6 lines 6-14).
13. As per claim 5, Kamada teaches a method wherein at least one of the schedulers is for statistical code profiling (col. 7 lines 33-42)
14. As per claim 6 Kamada teaches a method wherein a first one of the schedulers is for start up conditions and a second one of the schedulers is for steady state operation (Fig. 5 element 159, col. 11 lines 21-37).
15. As per claim 7, Kamada teaches a method wherein choosing the particular scheduler is performed by setting up a return from an exception that causes the one scheduler to execute (col. 11 lines 21-37).
16. As per claim 8, Perotto teaches method wherein setting a program counter includes modifying a variable that is modified according to the particular scheduler that is chosen (col. 4 lines 1-10).
17. As per claim 10, Perotto teaches a method wherein choosing a particular scheduler is performed by setting up a return from an exception that causes the one scheduler to execute (col. 2 lines 35-65, col. 4 lines 1-20).

18. As per claim 11, Perotto teaches a method wherein running the particular scheduler includes setting a program counter to an address corresponding to code of the particular scheduler (col. 4 lines 1-10).
19. As per claim 12, Perotto teaches a method wherein setting a program counter includes modifying a variable that is modified according to the particular scheduler that is chosen (col. 4 lines 1-20).
20. As per claim 13, Perotto teaches a method further comprising of setting a stack pointer to an address corresponding to stack space for the particular scheduler and the processor using the stack space at the stack pointer after executing code at the address corresponding to the program counter (col. 7 lines 21-40).
21. As per claim 14, Perotto teaches method wherein all of the schedulers use the same stack (col. 7 lines 40-44).
22. As per claim 15, Perotto, teaches a method wherein choosing the particular scheduler is based on parameters that vary according to run time conditions (col. 6 lines 6-14).
23. As per claim 16, Kamada teaches a method wherein at least one of the schedulers is for statistical code profiling (col. 7 lines 33-42)

24. As per claim 17, Kamada teaches a method wherein a first one of the schedulers is for start up conditions and a second one of the schedulers is for steady state operation (Fig. 5 element 159, col. 11 lines 21-37).
25. As per claims 18-25, they are rejected for the same reasons as claims 1-8 above.
26. As per claims 27-34, they are rejected for the same reasons as claims 10-17 above.

***Response to Arguments***

27. Applicant's arguments filed 11/22/2004 have been fully considered but they are not persuasive. Applicant states Kamada does not teach a) the use of choosing a particular one of the plurality of schedulers b) choosing the scheduler based on run time conditions.
28. Examiner respectfully disagrees with applicant's remarks.

As to point a) Kamada teaches choosing a particular one of the plurality of schedulers (10-11, 10-12, Fig. 3; col. 7 lines 1-40; col. 11 lines 39-40).

As to point b) Kamada's invention is used for a real time application (col. 7 lines 1-40).

Based on dynamically changing priority level the scheduler can execute different tasks.



***Conclusion***

**29. THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nilesh Shah whose telephone number is (571)272-3771. The examiner can normally be reached on 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng An can be reached on (571)272-3756. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2127

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nilesh Shah  
Examiner  
Art Unit 2127

NS

March 14, 2005

**MENG-AL T. AN**  
**SUPERVISORY PATENT EXAMINER**  
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